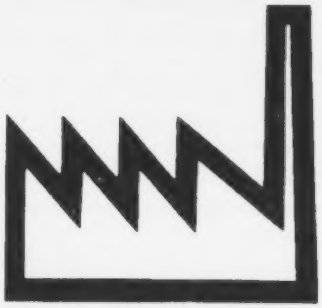
MC 87-I-34D(P)



PRELIMINARY REPORT
INDUSTRY SERIES

1987 Census of Manufactures

MC87-I-34D(P)
Issued July 1989

SCREW MACHINE PRODUCTS, FASTENERS AND WASHERS; METAL FORGINGS AND STAMPINGS; AND METAL SERVICES

Industries 3451, 3452, 3462, 3463, 3465, 3466, 3469, 3471, and 3479

INTRODUCTION

This report presents preliminary statistics from the 1987 Census of Manufactures for those establishments classified in the industries listed above. These data will be superseded by a more comprehensive final paperbound report. The method of data collection and use of administrative data are discussed in detail in the appendix.

All dollar figures included in this report are at prices current for the year specified and, therefore, unadjusted for changes in price levels. Consequently, when making comparisons to prior years, users should take into consideration the inflation that has occurred.

The definitions of these industries are the same as those used in the 1987 Standard Industrial Classification (SIC) Manual.[1]

INDUSTRY 3451, SCREW MACHINE PRODUCTS

In the 1987 Census of Manufactures, Industry 3451, Screw Machine Products, had employment of 42.6 thousand. The employment figure was 2 percent above the 41.8 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was $2.8 billion.

The cost of materials and services used by establishments in this industry amounted to $1.1 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3452, BOLTS, NUTS, RIVETS, AND WASHERS

In the 1987 Census of Manufactures, Industry 3452, Bolts, Nuts, Rivets, and Washers, had employment of 51.9 thousand. The employment figure was 1 percent below the 52.2 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was $5.1 billion.

The cost of materials and services used by establishments in this industry amounted to $2.1 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3462, IRON AND STEEL FORGINGS

In the 1987 Census of Manufactures, Industry 3462, Iron and Steel Forgings, had employment of 27.4 thousand. The employment figure was 11 percent below the 30.7 thousand reported in 1982. Compared with 1986, employment in 1987 increased 9 percent. The 1986 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The total value of shipments for establishments classified in this industry was $3.1 billion.

The cost of materials and services used by establishments in this industry amounted to $1.6 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3463, NONFERROUS FORGINGS

In the 1987 Census of Manufactures, Industry 3463, Nonferrous Forgings, had employment of 7.5 thousand. The employment figure was 5 percent below the 7.9 thousand reported in 1982.

[1] **Standard Industrial Classification Manual: 1987.** For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock No. 041-001-00314-2.

Address inquiries to Bureau of the Census, Industry Division, Washington, DC 20233, or call **Kimberly D. Austin** (301) 763-7304.

U.S. Department of Commerce
BUREAU OF THE CENSUS

For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

C3.24/8:

The total value of shipments for establishments classified in this industry was $1.0 billion.

The cost of materials and services used by establishments in this industry amounted to $586.1 million in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3465, AUTOMOTIVE STAMPINGS

In the 1987 Census of Manufactures, Industry 3465, Automotive Stampings, had employment of 120.4 thousand. The employment figure was 33 percent above the 90.5 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was $15.3 billion.

The cost of materials and services used by establishments in this industry amounted to $8.5 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3466, CROWNS AND CLOSURES

In the 1987 Census of Manufactures, Industry 3466, Crowns and Closures, had employment of 6.2 thousand. The employment figure was 7 percent below the 6.7 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was $824.7 million.

The cost of materials and services used by establishments in this industry amounted to $446.7 million in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3469, METAL STAMPINGS, N.E.C.

In the 1987 Census of Manufactures, Industry 3469, Metal Stampings, N.E.C., had employment of 94.1 thousand. The employment figure was 6 percent below the 100.4 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was $8.2 billion.

The cost of materials and services used by establishments in this industry amounted to $4.0 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3471, PLATING AND POLISHING

In the 1987 Census of Manufactures, Industry 3471, Plating and Polishing, had employment of 70.9 thousand. The employment figure was 15 percent above the 61.9 thousand reported in 1982. Compared with 1986, employment in 1987 increased 8 percent. The 1986 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The total value of shipments for establishments classified in this industry was $3.9 billion.

The cost of materials and services used by establishments in this industry amounted to $1.2 billion in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3479, METAL COATING AND ALLIED SERVICES

In the 1987 Census of Manufactures, Industry 3479, Metal Coating and Allied Services, had employment of 43.7 thousand. The employment figure was 25 percent above the 35.0 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was $4.1 billion.

The cost of materials and services used by establishments in this industry amounted to $2.0 billion in 1987. Data on specific materials consumed appear in table 3.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used in the tables in this publication:

-	Represents zero.
(D)	Withheld to avoid disclosing data for individual companies; data are included in higher level totals.
(NA)	Not available.
(NC)	Not comparable.
(S)	Withheld because estimate did not meet publication standards on the basis of either the response rate or a consistency review.
(X)	Not applicable.
(Z)	Less than half the unit shown.
do	Ditto.
n.e.c.	Not elsewhere classified.
n.s.k.	Not specified by kind.
pt.	Part.
r	Revised.
SIC	Standard Industrial Classification.

Other abbreviations, such as lb, gal, yd, doz, bbl, and s tons, are used in the customary sense.

CONTACTS FOR DATA USERS

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Census/ASM		
Durables	Kenneth Hansen	(301) 763-7304
Nondurables	Michael Zampogna	(301) 763-2510
Current Industrial Reports		
Durables	Malcolm Bernhardt	(301) 763-2518
Nondurables	Thomas Flood	(301) 763-5911
Import/Export Publications	Foreign Trade Division	(301) 763-5140
Industry Analysis and Forecasts	International Trade Administration	(202) 377-4356

Table 1. Historical Statistics for the Industry: 1987 and Earlier Years

[Excludes data for auxiliaries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix]

Year[1]	Companies[2] (no.)	All establishments[3] Total (no.)	All establishments[3] With 20 employees or more (no.)	All employees Number (1,000)	All employees Payroll (million dollars)	Production workers Number (1,000)	Production workers Hours (millions)	Production workers Wages (million dollars)	Value added by manufacture[4] (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories[4] (million dollars)	Ratios Specialization (percent)	Ratios Coverage (percent)
INDUSTRY 3451, SCREW MACHINE PRODUCTS															
1987 Census	(NA)	1 625	635	42.6	944.3	34.1	72.7	664.8	1 767.7	1 044.6	2 799.8	100.2	355.4	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	43.5	908.2	34.6	69.2	658.7	1 776.7	1 158.7	2 928.3	98.5	355.6	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	44.4	892.8	35.8	71.4	640.0	1 870.2	1 179.5	2 947.8	109.4	483.4	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	45.2	882.1	36.9	73.3	641.7	1 778.0	1 167.1	2 903.8	91.9	361.5	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	40.9	737.6	33.0	66.6	518.1	1 448.6	898.9	2 337.8	59.9	315.8	(NA)	(NA)
1982 Census	1 744	1 787	643	41.8	718.9	33.7	65.2	503.2	1 328.0	831.6	2 173.1	77.2	297.0	96	94
1981 ASM	(NA)	(NA)	(NA)	47.7	786.5	39.4	80.7	557.5	1 471.2	1 061.4	2 537.7	79.4	323.5	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	52.3	777.0	42.8	84.9	557.8	1 476.9	1 055.5	2 520.2	96.4	324.5	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	51.7	739.8	43.9	89.3	537.6	1 534.1	990.9	2 483.0	79.8	312.9	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	48.5	638.4	40.6	82.3	463.0	1 257.4	857.5	2 097.5	80.0	273.5	(NA)	(NA)
1977 Census	1 727	1 770	654	43.8	551.6	36.0	74.3	395.5	1 023.9	762.2	1 771.7	71.9	230.6	96	92
1976 ASM	(NA)	(NA)	(NA)	40.8	465.6	33.3	67.5	326.0	858.5	613.3	1 456.6	38.2	200.0	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	40.5	433.7	32.8	65.0	308.3	795.4	529.9	1 326.7	47.9	180.0	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	48.3	492.5	40.1	84.0	359.0	979.9	628.2	1 586.6	45.3	218.3	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	48.8	460.2	40.5	86.0	332.9	894.2	601.7	1 480.4	58.5	172.0	(NA)	(NA)
1972 Census	1 781	1 804	612	40.5	357.3	33.2	68.2	257.9	648.5	424.3	1 063.8	33.2	115.7	96	90
INDUSTRY 3452, BOLTS, NUTS, RIVETS, AND WASHERS															
1987 Census	(NA)	924	467	51.9	1 320.5	38.5	80.3	884.3	2 981.6	2 106.1	5 059.6	150.1	949.5	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	49.7	1 197.0	36.6	74.2	800.4	2 640.9	2 061.7	4 713.6	144.5	866.5	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	52.8	1 206.8	38.9	79.2	793.7	2 621.8	2 139.6	4 794.8	138.2	900.8	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	51.0	1 139.0	38.5	78.2	765.3	2 605.8	2 001.1	4 568.7	124.1	973.9	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	49.5	1 040.4	35.7	71.6	689.8	2 224.6	1 691.8	3 897.3	[6]120.1	975.7	(NA)	(NA)
1982 Census	780	903	450	52.2	1 008.1	37.2	69.1	644.6	1 981.2	1 588.1	3 661.3	109.8	945.0	93	95
1981 ASM	(NA)	(NA)	(NA)	63.2	1 176.3	47.0	93.4	787.3	2 573.9	1 932.0	4 484.9	148.4	969.3	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	65.8	1 115.2	49.0	97.9	752.2	2 465.2	1 865.9	4 311.5	168.5	927.8	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	69.7	1 114.5	52.4	106.6	769.7	2 465.0	1 981.0	4 366.8	144.9	890.1	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	64.5	986.9	48.9	100.5	678.8	2 113.7	1 745.6	3 811.3	139.5	804.8	(NA)	(NA)
1977 Census	722	857	448	60.9	862.4	45.6	93.9	587.6	1 840.3	1 510.1	3 319.5	112.3	714.3	94	94
1976 ASM	(NA)	(NA)	(NA)	58.8	754.8	43.8	87.5	509.3	1 656.6	1 306.0	2 939.4	83.7	718.6	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	56.1	651.7	40.6	80.1	433.6	1 459.8	1 123.3	2 581.3	74.2	614.6	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	66.1	749.6	51.2	105.7	530.9	1 775.3	1 281.5	2 966.8	107.6	653.8	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	61.2	649.5	47.3	101.3	451.4	1 442.8	1 005.9	2 438.4	62.4	453.8	(NA)	(NA)
1972 Census	580	678	396	60.1	590.7	46.0	96.6	407.7	1 196.8	851.9	2 027.6	55.7	407.8	93	91
INDUSTRY 3462, IRON AND STEEL FORGINGS															
1987 Census	(NA)	399	199	27.4	771.0	19.6	39.6	497.0	1 434.8	1 579.2	3 081.4	117.5	632.4	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	25.2	675.6	18.3	35.0	449.3	1 247.1	1 368.6	2 602.1	74.4	552.6	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	27.5	728.9	20.1	38.5	487.7	1 309.6	1 509.9	2 857.9	95.6	568.6	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	29.8	754.7	22.0	42.0	519.3	1 386.1	1 531.3	3 014.8	97.3	640.3	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	25.0	597.4	18.5	33.8	402.6	1 103.3	1 247.2	2 380.7	80.2	477.9	(NA)	(NA)
1982 Census	336	380	220	30.7	690.7	22.4	40.7	462.9	1 347.6	1 520.7	2 943.5	158.0	618.7	89	81
1981 ASM	(NA)	(NA)	(NA)	38.1	845.3	29.3	56.2	594.6	1 855.6	2 040.6	3 864.2	181.0	564.6	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	38.8	780.3	29.8	57.7	555.7	1 544.7	1 918.8	3 475.6	148.6	528.9	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	40.2	759.9	31.3	63.3	562.8	1 557.1	1 970.3	3 490.8	153.8	575.8	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	41.4	725.7	32.6	64.6	538.6	1 474.7	1 739.2	3 191.3	118.3	506.6	(NA)	(NA)
1977 Census	312	358	231	39.1	641.5	31.0	60.8	474.8	1 301.4	1 505.4	2 795.7	126.7	452.7	92	84
1976 ASM	(NA)	(NA)	(NA)	37.6	537.2	30.4	57.0	400.8	1 126.8	1 228.8	2 353.5	118.7	390.2	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	36.3	490.8	29.4	56.8	371.1	1 046.1	1 165.7	2 198.7	77.5	353.3	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	39.4	503.5	32.4	65.1	392.7	995.3	1 144.6	2 105.3	54.7	382.3	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	38.2	460.6	30.8	63.4	359.0	822.3	918.9	1 720.2	38.2	300.0	(NA)	(NA)
1972 Census	252	280	180	34.3	387.2	27.8	55.2	299.5	661.8	761.8	1 416.1	28.1	219.4	92	68
INDUSTRY 3463, NONFERROUS FORGINGS															
1987 Census	(NA)	78	42	7.5	224.3	5.6	11.6	149.9	451.1	586.1	1 048.0	30.5	289.2	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	7.9	247.2	5.6	10.9	161.3	497.8	586.1	1 086.1	43.8	347.5	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	8.3	245.5	6.0	11.7	159.6	543.6	648.3	1 181.2	45.1	354.5	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	9.1	258.8	6.6	12.7	169.8	516.2	733.5	1 237.4	45.5	393.5	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	8.6	225.7	6.1	11.2	142.1	540.7	572.9	1 151.5	53.7	345.8	(NA)	(NA)
1982 Census	59	64	46	7.9	200.7	5.7	10.6	128.7	461.2	569.3	1 093.8	100.3	302.6	84	73
1981 ASM	(NA)	(NA)	(NA)	8.6	203.3	6.4	13.3	140.9	510.0	651.2	1 168.5	42.5	288.9	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	9.0	189.7	6.8	13.3	132.0	483.0	604.3	1 048.6	39.0	295.6	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	8.0	158.6	6.0	12.7	116.4	416.9	453.4	823.5	27.4	236.1	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	6.2	115.8	4.7	9.6	83.2	274.9	315.5	569.8	24.6	163.5	(NA)	(NA)
1977 Census	43	47	31	5.4	93.7	4.2	8.2	64.8	240.7	234.9	456.7	12.2	123.8	87	67
1976 ASM	(NA)	(NA)	(NA)	5.2	84.1	3.8	7.2	57.1	205.8	191.6	401.3	10.5	100.6	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	6.1	86.9	4.5	9.0	60.6	193.0	185.7	386.2	13.8	104.8	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	6.4	88.2	5.0	10.7	64.4	202.0	178.6	354.4	7.1	114.9	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	6.1	74.6	4.6	9.8	54.0	141.2	154.8	283.0	9.0	81.4	(NA)	(NA)
1972 Census	40	46	33	5.8	63.7	4.5	9.0	45.4	104.0	118.9	222.5	7.0	60.0	84	63
INDUSTRY 3465, AUTOMOTIVE STAMPINGS															
1987 Census	(NA)	709	500	120.4	3 987.0	100.5	214.4	3 171.4	6 714.8	8 545.8	15 277.8	1 287.0	1 158.5	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	119.1	3 942.7	99.9	216.5	3 162.5	6 521.2	8 310.9	14 826.5	1 183.0	1 123.2	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	119.2	3 795.5	100.6	217.4	3 058.3	6 850.5	8 183.8	15 037.7	830.6	1 175.1	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	112.4	3 368.9	95.2	203.8	2 717.1	6 631.8	7 594.8	14 137.4	462.3	1 154.3	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	96.6	2 729.6	81.1	172.2	2 175.5	5 409.5	5 846.8	11 176.4	234.9	973.0	(NA)	(NA)
1982 Census	566	668	434	90.5	2 292.6	74.5	145.2	1 792.4	4 114.4	4 621.6	8 777.4	465.0	804.7	92	88
1981 ASM	(NA)	(NA)	(NA)	95.1	2 393.8	79.2	151.2	1 873.7	4 444.7	4 553.0	8 960.7	844.4	849.9	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	100.9	2 253.6	83.8	155.9	1 738.1	4 182.5	4 271.0	8 497.3	610.0	864.5	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	125.3	2 552.6	106.4	208.0	2 013.1	4 940.0	5 491.8	10 425.9	390.9	1 000.8	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	136.7	2 642.1	116.6	237.1	2 120.1	5 180.1	5 583.8	10 697.6	401.4	1 087.1	(NA)	(NA)

See footnotes at end of table.

Table 1. Historical Statistics for the Industry: 1987 and Earlier Years—Con.

[Excludes data for auxiliaries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix.]

Year[1]	Companies[2] (no.)	All establishments[3] Total (no.)	All establishments[3] With 20 employees or more (no.)	All employees Number (1,000)	All employees Payroll (million dollars)	Production workers Number (1,000)	Production workers Hours (millions)	Production workers Wages (million dollars)	Value added by manufacture[4] (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories[4] (million dollars)	Ratios Specialization (percent)	Ratios Coverage (percent)
INDUSTRY 3465, AUTOMOTIVE STAMPINGS—Con.															
1987 Census	495	591	432	132.4	2 446.0	112.5	236.8	1 956.6	4 654.5	5 130.8	9 739.2	292.2	948.3	92	91
1986 ASM	(NA)	(NA)	(NA)	123.1	2 024.4	104.1	213.5	1 601.5	3 934.8	4 200.5	8 070.5	176.1	861.5	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	107.4	1 526.8	90.0	173.0	1 178.6	2 872.4	3 247.0	6 116.2	215.5	608.6	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	121.7	1 622.6	102.1	202.1	1 264.6	3 011.6	3 122.6	6 103.0	225.5	734.7	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	135.4	1 743.7	114.1	242.7	1 385.0	3 141.3	2 983.7	6 085.9	171.5	585.6	(NA)	(NA)
1982 Census	388	453	364	123.3	1 485.4	103.0	217.5	1 174.6	2 663.8	2 624.5	5 286.0	117.5	447.0	92	92
INDUSTRY 3466, CROWNS AND CLOSURES															
1987 Census	(NA)	59	36	6.2	163.0	4.9	10.3	120.8	383.4	446.7	824.7	26.6	152.4	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	6.4	159.6	5.1	10.6	116.6	376.7	532.5	914.5	38.7	145.8	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	6.7	161.6	5.3	10.1	120.8	353.7	509.7	862.5	22.0	147.9	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	6.8	158.5	5.5	11.0	119.1	344.8	499.0	805.3	20.2	158.1	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	7.1	161.1	5.7	11.4	121.6	373.0	494.9	866.5	19.8	157.6	(NA)	(NA)
1982 Census	48	64	36	6.7	143.5	5.4	10.6	106.8	372.4	441.7	804.8	21.6	140.7	92	92
1981 ASM	(NA)	(NA)	(NA)	7.1	143.9	5.8	11.7	107.7	335.0	437.5	765.8	30.1	127.9	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	7.2	128.2	5.8	11.5	96.3	293.3	390.3	678.7	19.4	123.3	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	6.9	114.2	5.6	11.3	86.1	276.8	349.1	631.1	17.0	117.4	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	7.3	108.9	5.9	11.6	81.6	277.0	310.5	574.1	14.1	125.0	(NA)	(NA)
1977 Census	42	56	43	7.9	104.8	6.5	12.6	80.2	265.4	283.2	536.9	17.1	121.0	95	86
1976 ASM	(NA)	(NA)	(NA)	7.6	96.7	6.3	13.0	75.2	239.0	290.3	522.4	10.7	95.5	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	7.5	88.3	6.1	12.4	67.3	218.0	265.6	479.9	13.3	93.8	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	8.1	83.8	6.7	13.5	63.6	211.9	228.2	431.5	10.5	101.6	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	7.3	72.9	5.9	11.8	54.4	169.7	187.1	355.2	7.8	71.1	(NA)	(NA)
1972 Census	42	53	48	8.1	74.1	6.7	13.4	55.1	166.7	180.9	343.5	8.3	62.6	86	83
INDUSTRY 3469, METAL STAMPINGS, N.E.C.															
1987 Census	(NA)	2 769	1 149	94.1	2 102.7	72.2	144.1	1 383.1	4 240.1	3 977.9	8 206.6	269.6	1 129.3	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	95.9	2 067.6	73.3	142.4	1 364.6	4 032.4	3 584.1	7 625.5	256.9	1 076.1	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	107.1	2 216.9	82.6	164.7	1 446.5	4 261.4	3 773.5	8 084.3	305.0	1 193.7	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	110.5	2 193.5	85.7	167.4	1 440.4	4 436.0	4 062.4	8 410.2	290.9	1 310.8	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	102.9	1 920.7	78.6	155.6	1 251.8	3 836.7	3 269.3	7 079.3	192.5	1 147.1	(NA)	(NA)
1982 Census	2 718	2 843	1 156	100.4	1 782.7	75.6	146.3	1 154.0	3 414.2	2 986.4	6 437.7	200.1	1 014.7	88	88
1981 ASM	(NA)	(NA)	(NA)	112.8	1 796.9	90.4	176.1	1 241.4	3 648.9	3 538.8	7 160.6	217.1	948.9	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	113.8	1 643.5	91.6	175.3	1 134.5	3 353.1	3 215.3	6 577.5	221.5	914.6	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	114.5	1 542.4	93.1	180.2	1 084.3	3 234.5	3 097.2	6 278.2	202.0	918.8	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	106.2	1 356.3	85.6	168.8	932.6	2 705.9	2 664.9	5 329.1	179.3	793.0	(NA)	(NA)
1977 Census	2 544	2 663	1 138	103.2	1 225.4	82.0	161.2	842.5	2 451.5	2 318.0	4 735.7	154.7	715.7	88	88
1976 ASM	(NA)	(NA)	(NA)	91.9	1 045.6	72.7	142.1	711.2	2 047.7	1 892.2	3 902.1	114.0	596.0	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	83.3	884.5	64.3	123.0	586.8	1 709.0	1 503.4	3 249.6	95.0	507.3	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	101.1	981.2	81.2	159.0	684.8	1 935.6	1 700.8	3 596.8	123.5	604.5	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	101.9	917.0	83.4	165.5	655.8	1 696.7	1 436.5	3 097.5	93.4	483.3	(NA)	(NA)
1972 Census	2 277	2 356	982	92.0	781.0	74.2	146.5	554.8	1 461.0	1 247.9	2 688.8	76.7	382.3	86	85
INDUSTRY 3471, PLATING AND POLISHING															
1987 Census	(NA)	3 398	1 042	70.9	1 332.1	55.8	111.8	882.4	2 636.9	1 234.4	3 868.9	140.2	322.8	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	65.8	1 179.1	51.5	104.6	784.3	2 252.3	1 149.2	3 408.3	137.7	208.4	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	69.0	1 182.3	55.7	113.3	802.2	2 203.2	1 245.5	3 445.8	160.4	241.1	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	68.7	1 143.4	55.7	112.6	793.9	2 207.8	1 254.8	3 457.4	[6]184.5	221.6	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	65.7	961.6	52.5	104.9	680.4	1 777.9	1 113.0	2 849.4	79.7	253.4	(NA)	(NA)
1982 Census	3 367	3 450	898	61.9	919.0	49.7	98.1	631.9	1 693.9	1 038.4	2 731.4	109.2	225.5	(5)	(5)
1981 ASM	(NA)	(NA)	(NA)	62.0	855.4	50.2	98.6	598.8	1 613.1	969.6	2 594.6	102.4	163.2	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	63.1	803.6	52.1	101.5	551.6	1 613.9	956.5	2 556.9	105.1	205.7	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	64.1	729.9	53.8	106.1	508.8	1 487.8	928.6	2 412.7	110.3	151.1	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	65.9	724.1	55.4	111.5	507.2	1 413.1	784.3	2 194.9	194.6	140.4	(NA)	(NA)
1977 Census	3 344	3 447	904	61.2	634.8	51.2	101.3	446.1	1 181.8	674.1	1 848.5	73.2	128.3	(5)	(5)
1976 ASM	(NA)	(NA)	(NA)	58.5	545.8	49.2	94.6	384.1	1 092.1	524.9	1 610.0	70.6	109.8	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	51.2	467.0	42.2	81.6	318.1	861.1	443.7	1 319.0	47.8	89.8	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	55.8	477.3	46.4	89.0	333.9	949.5	386.9	1 332.8	51.1	83.3	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	60.9	476.4	50.5	99.2	347.5	880.9	384.1	1 263.7	39.5	72.0	(NA)	(NA)
1972 Census	3 180	3 264	825	54.6	403.1	45.2	89.2	289.5	741.2	294.8	1 034.5	40.2	51.3	(5)	(5)
INDUSTRY 3479, METAL COATING AND ALLIED SERVICES															
1987 Census	(NA)	1 783	606	43.7	874.0	33.9	68.3	586.4	2 082.3	2 021.7	4 094.3	109.8	425.7	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	42.7	824.2	32.8	66.1	545.9	1 735.0	1 824.2	3 573.7	137.9	361.6	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	43.3	814.2	34.2	68.3	527.0	1 641.2	1 618.7	3 253.2	150.5	350.4	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	40.6	715.5	32.5	65.1	479.2	1 502.7	1 525.8	3 008.3	[6]111.3	349.6	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	33.2	579.6	25.7	53.2	396.0	1 154.5	1 235.2	2 391.9	88.9	261.6	(NA)	(NA)
1982 Census	1 524	1 620	507	35.0	599.1	27.5	54.1	403.7	1 202.6	1 195.9	2 393.4	91.0	292.1	(5)	(5)
1981 ASM	(NA)	(NA)	(NA)	39.6	623.3	32.0	65.4	440.6	1 399.9	1 137.4	2 528.6	136.8	194.7	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	38.5	541.4	31.2	60.9	383.5	1 175.3	1 094.7	2 278.7	53.7	205.7	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	38.1	516.3	31.0	61.4	371.3	1 124.8	1 037.9	2 156.5	81.8	206.6	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	33.7	415.3	27.2	54.5	285.8	895.5	937.6	1 825.1	70.9	175.2	(NA)	(NA)
1977 Census	1 556	1 648	469	32.3	373.7	25.8	52.2	260.2	781.1	831.7	1 607.7	47.9	159.0	(5)	(5)
1976 ASM	(NA)	(NA)	(NA)	31.9	356.6	25.3	51.1	260.0	726.7	583.1	1 490.7	39.2	130.9	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	30.3	318.7	23.8	48.0	230.3	579.7	649.5	1 065.5	56.4	99.2	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	33.5	302.9	26.6	52.9	219.1	561.8	607.4	973.1	44.8	122.4	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	30.4	253.8	24.9	51.0	182.9	428.1	459.7	897.6	26.3	83.1	(NA)	(NA)
1972 Census	1 427	1 497	372	27.6	221.1	22.5	43.5	155.8	379.2	328.7	701.8	24.0	64.8	(5)	(5)

Note: Establishments of single unit companies with up to 20 employees (cutoff varied by industry) were excluded from the mail portion of the census. Data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were estimated based on administrative-record information from other agencies in conjunction with industry averages. These establishments accounted for the following percent of total value of shipments: SIC 3451, 10%; SIC 3452, 11%; SIC 3462, 14%; SIC 3463, 6%; SIC 3465, 6%; SIC 3466, 10%; SIC 3469, 18%; SIC 3471, 20%; and SIC 3479, 18%.

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1972, see 1972 Census of Manufactures, vol. II, table 1a of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Includes establishments with payroll at any time during year.

Table 1. Historical Statistics for the Industry: 1987 and Earlier Years—Con.

[4]Beginning with the 1982 Census of Manufactures, all respondents were requested to report their inventories at (the lower of) cost or market prior to adjustment to LIFO cost. This is a change from prior Censuses and annual surveys of manufactures in which respondents were permitted to value their inventories using any generally accepted accounting method. Consequently, inventories and value added by manufacture are not comparable to prior-year data.
[5]Relationships are not meaningful because of predominance of miscellaneous receipts, particularly reciepts of contract and commission work on materials owned by others.
[6]Estimates for new capital expenditures have associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	1987		1982	
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)
3451- --	**SCREW MACHINE PRODUCTS**				
	Total	**(NA)**	**2 759.7**	**(NA)**	**2 159.7**
34511 --	Automotive screw machine products (nonstandard items made from rod, bar, or tube stock on automatic or hand-operated screw machines):				
34511 00	Automotive screw machine products (nonstandard items made from rod, bar, or tube stock on automatic or hand-operated screw machines)	(NA)	874.3	391	686.7
34512 --	Other screw machine products	(NA)	1 599.1	(NA)	1 245.3
	Nonstandard items made from rod, bar, or tube stock on automatic or hand-operated screw machines on basis of end product in which to be incorporated:				
34512 31	Aircraft	(NA)	182.9	95	92.1
34512 39	Ordnance	(NA)	85.5	81	54.0
34512 42	Household appliances, including radio and television	(NA)	144.4	153	106.2
34512 52	Electric and electronic equipment, except household appliances	(NA)	261.6	257	194.2
34512 62	Machinery	(NA)	279.7	255	266.7
34512 99	All other end uses	(NA)	588.4	478	507.4
34512 00	Other screw machine products, n.s.k.	(NA)	56.5	(NA)	24.6
34510 --	Screw machine products, n.s.k.	(NA)	286.3	(NA)	227.8
34510 00	Screw machine products, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	177.0	(NA)	174.2
34510 02	Screw machine products, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	109.3	(NA)	53.6

1987 product code	Product	1987				1982			
		Number of companies with shipments of $100,000 or more	Product shipments[1]			Number of companies with shipments of $100,000 or more	Product shipments[1]		
			Quantity[2]		Value (million dollars)		Quantity[2]		Value (million dollars)
			Million pieces	Million pounds			Million pieces	Million pounds	
3452- --	**BOLTS, NUTS, RIVETS, AND WASHERS**								
	Total	**(NA)**	**(X)**	**(X)**	**4 777.2**	**(NA)**	**(X)**	**(X)**	**3 401.0**
34524 --	Externally threaded fasteners (except aircraft)	(NA)	(X)	(X)	1 767.8	(NA)	(X)	(X)	1 451.0
	Bolts (except nonmetallic):								
34524 11	Mine roof bolts	13	(S)	(S)	180.2	15	(S)	(S)	165.2
34524 12	Hex bolts, including heavy, tap and joint, excluding high strength structural	57	(S)	(S)	168.7	62	(S)	**170.9	176.3
34524 19	Other metal bolts, including square, round, plow, high strength structural, and bent bolts	96	(X)	(X)	276.2	110	(S)	(S)	367.3
	Screws (except nonmetallic):								
34524 39	Cap, set, machine, lag, flange, and self-locking	75	6 171.3	(S)	379.1	80	5 333.2	(S)	246.6
34524 45	Tapping, including fillister, flat, hex, oval, pan and truss, and wood, including flat, oval, and round	58	(S)	(S)	307.7	67	(S)	(S)	178.9
34524 89	Other externally threaded metal fasteners not mentioned above, including studs and all nonmetallic externally threaded fasteners	84	(X)	(X)	434.7	114	3 574.5	(S)	315.6
34524 00	Externally threaded fasteners (except aircraft), n.s.k.	(NA)	(X)	(X)	21.3	(NA)	(X)	(X)	1.1
34525 --	Internally threaded fasteners (except aircraft)	(NA)	(X)	(X)	529.3	(NA)	(X)	(X)	408.6
	Nuts (except nonmetallic):								
34525 04	Hex, including flanges, double chamfered, washer face, flat, jam, slotted, thick, castle, heavy, machine, and locking	61	(S)	**223.7	268.5	78	2 763.1	(S)	234.2
34525 29	Square, including flat, washer, crowned, heavy, track, sleeve, and machine; sheet metal; weld; wing; and cage, anchor, and nut retainers	24	(S)	(S)	98.9	23	(S)	(S)	41.5
34525 89	Other internally threaded metal fasteners not mentioned above, including flanged nuts (all types, except hex) and locknuts (all types, except hex) and all nonmetallic internally threaded fasteners	59	(X)	(X)	156.8	53	(X)	(X)	132.4
34525 00	Internally threaded fasteners (except aircraft), n.s.k.	(NA)	(X)	(X)	5.1	(NA)	(X)	(X)	.5
34526 --	Nonthreaded fasteners (except aircraft)	(NA)	(X)	(X)	574.5	(NA)	(X)	(X)	526.2
	Rivets (except nonmetallic):								
34526 09	Solid	37	(S)	**69.9	77.4	36	1 247.8	(S)	80.0
34526 15	Tubular, split (including rivet caps) and blind	22	(S)	(S)	126.4	33	(S)	(S)	114.0
34526 35	Washers (except nonmetallic)	46	(S)	**124.9	138.6	51	3 402.7	(S)	116.0
34526 79	Other nonthreaded metal fasteners not mentioned above, including pins (all types), and all nonmetallic nonthreaded products	-	(X)	(X)	205.7	70	(X)	(X)	215.4
34526 00	Nonthreaded fasteners (except aircraft), n.s.k.	-	(X)	(X)	26.4	(NA)	(X)	(X)	.8

See footnotes at end of table.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	1987				1982			
		Number of companies with shipments of $100,000 or more	Product shipments[1]			Number of companies with shipments of $100,000 or more	Product shipments[1]		
			Quantity[2]		Value (million dollars)		Quantity[2]		Value (million dollars)
			Million pieces	Million pounds			Million pieces	Million pounds	
3452- —	**BOLTS, NUTS, RIVETS, AND WASHERS**—Con.								
34527 —	Aircraft aerospace fasteners (meet specifications for flying vehicles)	(NA)	(X)	(X)	877.9	(NA)	(X)	(X)	516.7
	Externally threaded:								
	Bolts:								
34527 01	Less than 161 KSI tensile	18	(S)	(S)	163.1	16	29.5	(S)	34.6
34527 06	161 KSI tensile or more	15	(S)	(S)	169.9	15	24.6	(S)	58.7
34527 15	Screws, all types; and studs, all types	24	(S)	(S)	65.3	20	(S)	(S)	131.6
	Internally threaded:								
34527 45	Locknuts, including flanged locknuts	15	(S)	(S)	167.6	12	(S)	(S)	79.2
34527 59	Other, including flanged nuts (all types, except flanged locknuts), hex square nuts (all types), and sheet metal fasteners	25	(S)	(S)	138.1	13	33.9	(S)	137.6
	Nonthreaded:								
34527 61	Washers, all types	13	(S)	(S)	10.3	5	(S)	(S)	6.0
34527 62	Rivets, all types	14	(S)	(S)	117.1	12	347.9	(S)	46.4
34527 63	Pins, all types	13	(S)	(S)	37.7	11	50.4	(S)	20.5
34527 00	Aircraft aerospace fasteners (meet specifications for flying vehicles), n.s.k.	(NA)	(X)	(X)	4.0	(NA)	(X)	(X)	2.1
34528 —	Other formed parts (made on fastener machines)	(NA)	(X)	(X)	479.6	(NA)	(X)	(X)	329.9
34528 11	Automotive	43	(S)	**206.8	265.5	37	610.7	(S)	124.7
34528 21	Household appliances, including radio and television	13	(S)	(S)	30.6	16	(S)	(S)	24.8
34528 31	Aircraft	16	(S)	(S)	41.7	19	(S)	(S)	40.4
34528 98	All other, including ordnance	63	(S)	(S)	133.3	63	(S)	(S)	139.3
34528 00	Other formed parts (made on fastener machines), n.s.k.	(NA)	(X)	(X)	8.4	(NA)	(X)	(X)	8
34520 —	Bolts, nuts, rivets, and washers, n.s.k.	(NA)	(X)	(X)	548.2	(NA)	(X)	(X)	168.5
34520 00	Bolts, nuts, rivets, and washers, n.s.k., typically for establishments with 20 employees or more (see note)	(NA)	(X)	(X)	344.2	(NA)	(X)	(X)	105.4
34520 02	Bolts, nuts, rivets, and washers, n.s.k., typically for establishments with less than 20 employees (see note)	(NA)	(X)	(X)	204.0	(NA)	(X)	(X)	63.1

1987 product code	Product	Number of companies with shipments of $100,000 or more	1987 product shipments[1]				1982 product shipments[1]			
			Total, including interplant transfers		Commercial		Total, including interplant transfers		Commercial	
			Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)	Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
3462- —	**IRON AND STEEL FORGINGS**									
	Total	**(NA)**	**(X)**	**2 973.5**	**(X)**	**(X)**	**(NA)**	**(NA)**	**(NA)**	**(NA)**
34625 —	Hot impression die impact, press, and upset steel forgings	(NA)	(X)	2 107.2	(X)	(X)	(NA)	(NA)	(NA)	(NA)
34625 11	Carbon steel 1,000 s tons	(NA)	*586.4	746.4	(X)	(X)				
34625 13	Alloy steel, excluding stainless and hi-temp do	(NA)	540.4	789.4	(X)	(X)	1 326.8	2 265.5	1 041.2	1 878.4
34625 15	Stainless do	(NA)	*9.4	93.2	(X)	(X)				
34625 17	Hi-temp (iron, nickel, or cobalt base alloy) do	(NA)	10.0	364.6	(X)	(X)				
34625 00	Hot impression die impact, press, and upset steel forgings, n.s.k.	(NA)	(X)	113.6	(X)	(X)	(NA)	(NA)	(NA)	(NA)
34626 —	Cold impression die impact, press, and upset steel forgings	(NA)	(X)	183.1	(X)	(X)	(NA)	(NA)	(NA)	(NA)
34626 11	Carbon steel 1,000 s tons	(NA)	37.3	98.7	(X)	(X)				
34626 13	Alloy steel, excluding stainless and hi-temp do	(NA)	50.8	73.0	(X)	(X)	112.7	219.8	(D)	(D)
34626 15	Stainless do	(NA)	(3)	(3)	(X)	(X)				
34626 17	Hi-temp (iron, nickel, or cobalt base alloy) do	(NA)	(S)	35.1	(X)	(X)				
34626 00	Cold impression die impact, press, and upset steel forgings, n.s.k.	(NA)	(X)	6.3	(X)	(X)	(X)	(NA)	(X)	(NA)
34627 —	Seamless rolled ring forgings (ferrous) (see also code 3312A)	(NA)	(X)	149.7	(X)	(X)	(X)	(NA)	(X)	(NA)
34627 11	Carbon steel 1,000 s tons	(NA)	20.5	30.9	(X)	(X)				
34627 13	Alloy steel, excluding stainless and hi-temp do	(NA)	**7.5	59.3	(X)	(X)	(X)	(NA)	(X)	(NA)
34627 15	Stainless do	(NA)	**2.3	15.0	(X)	(X)				
34627 17	Hi-temp (iron, nickel, or cobalt base alloy) do	(NA)	**1.6	42.1	(X)	(X)				
34627 00	Seamless rolled ring forgings (ferrous), n.s.k.	(NA)	(X)	2.4	(X)	(X)	(X)	(NA)	(X)	(NA)
34628 —	Open die or smith forgings (hammer or press) (ferrous) (see also code 3312B)	(NA)	(X)	271.8	(X)	(X)	(X)	(NA)	(X)	(NA)
34628 11	Carbon steel 1,000 s tons	(NA)	*94.5	102.3	(X)	(X)				
34628 13	Alloy steel, excluding stainless and hi-temp do	(NA)	37.2	107.6	(X)	(X)	(X)	(NA)	(X)	(NA)
34628 15	Stainless do	(NA)	*5.0	25.0	(X)	(X)				
34628 17	Hi-temp (iron, nickel, or cobalt base alloy) do	(NA)	**.7	15.2	(X)	(X)				
34628 00	Open die or smith forgings (hammer or press) (ferrous), n.s.k.	(NA)	(X)	21.7	(X)	(X)	(X)	(NA)	(X)	(NA)
34620 —	Iron and steel forgings, n.s.k.	(NA)	(X)	261.7	(X)	(X)	(X)	(NA)	(X)	(NA)
34620 00	Iron and steel forgings, n.s.k., typically for establishments with 20 employees or more (see note)	(NA)	(X)	150.7	(X)	(X)	(X)	(NA)	(X)	(NA)
34620 02	Iron and steel forgings, n.s.k., typically for establishments with less than 20 employees (see note)	(NA)	(X)	111.0	(X)	(X)	(X)	(NA)	(X)	(NA)

See footnotes at end of table.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	Number of companies with shipments of $100,000 or more	1987 product shipments[1]				1982 product shipments[1]			
			Total, including interplant transfers		Commercial		Total, including interplant transfers		Commercial	
			Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)	Quantity[2]	Value (million dollars)	Quantity	Value (million dollars)
3463- —	**NONFERROUS FORGINGS**									
	Total	**(NA)**	**(X)**	**1 094.1**	**(X)**	**(X)**	**(X)**	**1 210.9**	**(X)**	**1 172.5**
34635 —	Hot impression die impact, press, and upset nonferrous forgings	(NA)	(X)	876.0	(X)	(X)	(X)	1 011.2	(X)	984.2
34635 21	Aluminum and aluminum alloy 1,000 s tons	(NA)	*72.0	505.1	(X)	(X)	48.6	382.4	(NA)	(NA)
34635 23	Titanium and titanium alloy do	(NA)	6.4	263.5	(X)	(X)	6.4	492.2	(NA)	(NA)
34635 25	Copper and copper-base alloy do	(NA)	16.2	73.2	(X)	(X)	15.2	71.9	(NA)	(NA)
34635 29	Other hot impression nonferrous forgings do	(NA)	2.8	18.1	(X)	(X)	6.0	64.7	69.7	984.2
34635 00	Hot impression die impact, press, and upset nonferrous forgings, n.s.k.	(NA)	(X)	16.0	(X)	(X)	(X)	–	(X)	–
34639 —	Other nonferrous forgings	(NA)	(X)	166.4	(X)	(X)	(X)	193.7	(X)	188.3
34639 15	Cold impression die impact, press, and upset nonferrous forgings 1,000 s tons	(NA)	10.6	35.9	(X)	(X)	*3.6	18.2	*2.1	12.9
34639 25	Seamless rolled ring forgings (nonferrous) do	(NA)	3.9	98.8	(X)	(X)	7.5	96.3	75.3	96.3
34639 35	Open die or smith forgings, hammer or press (nonferrous) do	(NA)	**4.7	30.9	(X)	(X)	16.3	79.2	16.2	16.2
34639 00	Other nonferrous forgings, n.s.k.	(NA)	(X)	.8	(X)	(X)	(X)	–	(X)	–
34630 —	Nonferrous forgings, n.s.k.	(NA)	(X)	51.7	(X)	(X)	(X)	6.0	(X)	(NA)
34630 00	Nonferrous forgings, n.s.k., typically for establishments with 10 employees or more (see note)	(NA)	(X)	34.8	(X)	(X)	(X)	1.4	(X)	(NA)
34630 02	Nonferrous forgings, n.s.k., typically for establishments with less than 10 employees (see note)	(NA)	(X)	16.9	(X)	(X)	(X)	4.6	(X)	(NA)

1987 product code	Product	1987		1982	
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)
3465- —	**AUTOMOTIVE STAMPINGS**				
	Total	**(NA)**	**14 846.3**	**(NA)**	**9 041.2**
34650 —	Job stampings, automotive:				
34650 00	Automotive job stampings (truck, bus, and passenger car)	(NA)	14 674.6	610	8 957.4
34650 02	Automotive stampings, n.s.k., typically for establishments with less than 20 employees (see note)	(NA)	171.6	(NA)	83.9

1987 product code	Product	1987			1982		
		Number of companies with shipments of $100,000 or more	Product shipments[1]		Number of companies with shipments of $100,000 or more	Product shipments[1]	
			Quantity[2]	Value (million dollars)		Quantity[2]	Value (million dollars)
3466- —	**CROWNS AND CLOSURES**						
	Total	**(NA)**	**(X)**	**819.5**	**(NA)**	**(X)**	**790.2**
34661 —	Metal commercial closures and metal home canning closures, except crowns:						
34661 00	Metal commercial closures and metal home canning closures, including milk bottle closures (for additional detail, see Current Industrial Report MQ-34H, Closures for Containers)	(NA)	(X)	691.6	27	(X)	627.1
34662 —	Metal crowns:						
34662 00	Metal crowns for glass and metal containers (for additional detail, see Current Industrial Report MQ-34H, Closures for Containers)	(NA)	(X)	115.4	8	(X)	145.0
34660 —	Crowns and closures, n.s.k.	(NA)	(X)	12.5	(NA)	(X)	18.1
34660 00	Crowns and closures, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	(X)	2.7	(NA)	(X)	4.4
34660 02	Crowns and closures, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	(X)	9.7	(NA)	(X)	13.7
3469- —	**METAL STAMPINGS, N.E.C.**						
	Total	**(NA)**	**(X)**	**7 849.4**	**(NA)**	**(X)**	**6 172.3**
34692 —	Job stampings, except automotive	(NA)	(X)	4 195.6	(NA)	(X)	2 908.9
34692 01	Recreational vehicle stampings (motor homes, travel trailers, etc.)	(NA)	(X)	40.4	34	(X)	23.3
34692 05	Motor and generator stampings	(NA)	(X)	90.3	71	(X)	80.9
34692 11	Aviation stampings	(NA)	(X)	214.2	80	(X)	198.4
34692 15	Agricultural equipment stampings, including tractor	(NA)	(X)	96.3	95	(X)	94.6
34692 20	Computer stampings	(NA)	(X)	289.6	(NA)	(NA)	(NA)

See footnotes at end of table.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	1987			1982		
		Number of companies with shipments of $100,000 or more	Product shipments[1]		Number of companies with shipments of $100,000 or more	Product shipments[1]	
			Quantity[2]	Value (million dollars)		Quantity[2]	Value (million dollars)
3469- —	**METAL STAMPINGS, N.E.C.**—Con.						
34692 —	Job stampings, except automotive—Con.						
34692 25	Electrical appliance stampings, except refrigeration and laundry equipment	(NA)	(X)	285.9	165	(X)	157.9
34692 31	Furniture stampings	(NA)	(X)	179.0	59	(X)	54.3
34692 41	Office machine stampings, excluding computer	(NA)	(X)	110.1	129	(X)	162.6
34692 52	Radio and phonograph stampings	(NA)	(X)	22.6	38	(X)	27.9
34692 53	Television stampings	(NA)	(X)	62.7	46	(X)	56.4
34692 61	Refrigerator stampings (residential, commercial, and industrial)	(NA)	(X)	195.1	36	(X)	88.6
34692 71	Stove, heater, and air-conditioner stampings (residential, commercial, and industrial)	(NA)	(X)	74.5	74	(X)	74.1
34692 84	Laundry equipment stampings (residential, commercial, and industrial)	(NA)	(X)	74.4	31	(X)	62.7
34692 88	Other industrial equipment stampings	(NA)	(X)	331.0	233	(X)	323.3
34692 98	Other job stampings	(NA)	(X)	1 715.3	552	(X)	1 407.6
34692 00	Job stamplings, except automotive, n.s.k.	(NA)	(X)	414.1	(NA)	(X)	96.4
34694 —	Stamped and spun utensils, cooking and kitchen, aluminum	(NA)	(X)	501.2	(NA)	(X)	508.2
34694 11	Top of range household utensils (items generally used directly on top of source of heat), including pressure cookers—millions	(NA)	(S)	267.3	23	*82.5	327.7
34694 14	Bakeware, pantryware, and miscellaneous household utensils—do	(NA)	(S)	133.9	28	(S)	143.8
34694 17	Camping and outdoor cooking equipment—do	(NA)	(S)	3.1	10	(S)	8.7
34694 29	Other, including commercial and hospital—do	(NA)	(S)	53.9	17	(S)	27.1
34694 00	Stamped and spun utensils, cooking and kitchen, aluminum, n.s.k.	(NA)	(X)	43.0	(NA)	(X)	8
34695 —	Stamped and spun utensils, cooking and kitchen, except aluminum	(NA)	(X)	262.9	(NA)	(X)	367.7
	Stainless steel:						
34695 07	Top of range household utensils (items generally used directly on top of source of heat)—millions	(NA)	(S)	140.3	15	(S)	153.5
34695 09	Bakeware, pantryware, and miscellaneous household utensils—do	(NA)	(S)	5.9	13	(S)	17.2
34695 15	Other, including commercial, hospital, and outdoor cooking equipment—do	(NA)	(S)	66.3	25	(S)	47.0
	Tinware:						
34695 21	Household—millions	(NA)	(S)	18.0			
34695 24	Other, including commercial, hospital, and outdoor cooking equipment—do	(NA)	(D)	(D)	4	(S)	69.9
34695 27	Vitreous enameled cooking and kitchen utensils	(NA)	(X)	(D)			
34695 98	Other stamped and spun cooking and kitchen utensils, including copper	(NA)	(X)	4.4	11	(X)	76.2
34695 00	Stamped and spun utensils, cooking and kitchen, except aluminum, n.s.k.	(NA)	(X)	7.8	(NA)	(X)	4.0
34696 —	Metal spinning products (excluding cooking and kitchen utensils):						
34696 00	Metal spinning products, excluding cooking and kitchen utensils	(NA)	(X)	45.7	(NA)	(NA)	(NA)
34699 —	Other stamped and pressed metal end products, including vitreous enameled products	(NA)	(X)	1 352.2	(NA)	(X)	1 584.8
	Vitreous (porcelain) enameled products, excluding cooking and kitchen utensils:						
34699 41	Architectural parts (exterior and interior), including store front and curtain wall components	(NA)	(X)	9.1	18	(X)	23.2
34699 48	Other products, including refrigerator parts, commercial and hospital utensils, and laundry equipment parts sold separately	(NA)	(X)	29.0	16	(X)	26.5
34699 59	Perforated metal end products	(NA)	(X)	66.9	31	(X)	93.5
	Pails, ash cans, garbage cans, tubs, etc. (excluding shipping containers):						
34699 61	Galvanized steel	(NA)	(X)	21.8	15	(X)	50.3
34699 69	Other metal, including other grades of steel	(NA)	(X)	33.0	20	(X)	41.2
34699 71	Electronic enclosures (stamped and/or pressed), excluding computer stampings	(NA)	(X)	286.8	190	(X)	520.0
34699 85	Mailboxes (commercial and multiple unit residential)	(NA)	(X)	30.9	17	(X)	43.6
34699 89	Toolboxes	(NA)	(X)	256.8	29	(X)	186.1
34699 98	Other stamped and pressed metal end products, excluding spinning products	(NA)	(X)	606.2	281	(X)	576.5
34699 00	Other stamped and pressed metal end products, including vitreous enameled products, n.s.k.	(NA)	(X)	11.7	(NA)	(X)	23.9
34690 —	Metal stampings, n.e.c., n.s.k.	(NA)	(X)	1 491.8	(NA)	(X)	802.6
34690 00	Metal stampings, n.e.c., n.s.k., typically for establishments with 10 employees or more (see note)	(NA)	(X)	1 224.9	(NA)	(X)	588.3
34690 02	Metal stampings, n.e.c., n.s.k., typically for establishments with less than 10 employees (see note)	(NA)	(X)	266.9	(NA)	(X)	214.3

See footnotes at end of table.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	1987		1982	
		Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)	Number of companies with shipments of $100,000 or more	Value of product shipments[1] (million dollars)
3471- —	**PLATING AND POLISHING**				
	Total	**(NA)**	**3 833.8**	**(NA)**	**2 680.3**
34710 —	Electroplating, plating, and polishing:				
34710 00	Electroplating, plating, polishing, and anodizing	(NA)	3 677.9	(NA)	2 680.3
34710 02	Electroplating, plating, and polishing, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	155.9	-	-
3479- —	**METAL COATING AND ALLIED SERVICES**				
	Total	**(NA)**	**3 969.8**	**(NA)**	**2 405.2**
34790 —	Etching, engraving, coating, and allied services:				
34790 10	Electronic engraving, excluding metal name plates	(NA)	27.3	(NA)	(NA)
34790 11	Photo chemical etching, including machining (excluding metal nameplates)	(NA)	76.2	(NA)	(NA)
34790 13	Etching and engraving metal nameplates	(NA)	49.9	86	94.2
34790 21	Other engraving and etching	(NA)	64.9	(NA)	(NA)
34790 31	Galvanizing and other hot dip coating	(NA)	864.5	136	524.8
	Organic coatings, enamels, lacquers, including alkydes, vinyls, acrylics, plastisols, etc.:				
34790 61	Coil coating	(NA)	568.2	43	460.5
34790 73	Liquid spray coating, including electrostatic	(NA)	568.3	479	655.8
34790 75	Powder coating, including electrostatic and fluidized bed	(NA)	521.6		
34790 81	All other, including curtain coating, wash coating, etc.	(NA)	381.0	187	466.9
34790 00	Metal coating and allied services, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	695.3	(NA)	[3]74.5
34790 02	Metal coating and allied services, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	152.4	(NA)	59.0

Note: In 1987 Census of Manufactures, data for establishments of small single unit companies with up to 20 employees were estimated from administrative-record data rather than data actually collected from respondents. Employment cutoffs used for administrative records for each industry and shipments figures are included in code ending with "002". In both 1987 and 1982 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (five-digit) followed by "00" or to appropriate product group code (four-digit) followed by "000".

[1]Data reported by all producers, not just those with shipments of $100,000 or more.
[2]For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * 10 to 19 percent estimated; ** 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).
[3]For 1987, product code 34626 15 was combined with product code 34626 17 to avoid disclosing data for individual companies.

Table 3. Materials Consumed by Kind: 1987 and 1982

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 material code	Material		1987		1982	
			Quantity[1]	Delivered cost (million dollars)	Quantity[1]	Delivered cost (million dollars)
	INDUSTRY 3451, SCREW MACHINE PRODUCTS					
	Materials, parts, containers, and supplies		**(X)**	**806.6**	**(X)**	**671.4**
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bar and bar shapes	1,000 s tons	(S)	191.6	**191.5	190.1
331012	Sheet and strip	do	*9.8	9.0	*7.8	4.9
331013	Plates	do	(D)	(D)	[2]	[2]
331017	Wire and wire products	do	(S)	30.2	(S)	45.4
331019	All other carbon steel mill shapes and forms	do	(S)	5.6	(NA)	(NA)
331059	All other	do	-	-	[3]1.9	[3]3.3
	Alloy steel, except stainless:					
331021	Bar and bar shapes	1,000 s tons	(S)	49.0	(S)	25.4
331029	All other	do	(S)	11.2	*5.7	11.3
	Stainless steel mill shapes and forms:					
331049	Bars and bar shapes	1,000 s tons	(S)	48.6	(S)	26.6
331033	Sheet and strip	do	(S)	.9	**.2	1.1
331052	All other	do	(S)	5.0	*1.9	4.5
	Copper and copper-base alloy:					
335728	Bare wire (for electrical conduction only)	mil lb	(S)	5.9	(S)	3.0
335103	Rod, bar, and bar shapes	do	**143.8	86.5	74.3	57.7
335104	Mechanical wire (including extruded and/or drawn shapes)	do	(S)	.3	*.7	.9
335143	Plate, sheet, and strip, including military cups and discs	do	(D)	(D)		
335152	Pipe and tube	do	**.7	1.3		
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil	mil lb	(S)	1.7	(S)	.9
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc.	do	(S)	23.8	(S)	14.2
335008	All other (wire, rolled rod and bar, powder, welded tubing, etc.)	do	(S)	8.1	(S)	5.7
335616	Nickel and nickel-base alloy	do	(S)	2.9	(S)	.4

See footnotes at end of table.

Table 3. **Materials Consumed by Kind: 1987 and 1982**—Con.

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 material code	Material	1987 Quantity[1]	1987 Delivered cost (million dollars)	1982 Quantity[1]	1982 Delivered cost (million dollars)
	INDUSTRY 3451, SCREW MACHINE PRODUCTS —Con.				
	Castings (rough and semifinished):				
332011	Iron (gray and malleable) ..... 1,000 s tons	(S)	7.9	2.3	2.2
332045	Steel ..... do	(S)	1.4	*.3	.7
336005	Aluminum and aluminum-base alloy ..... mil lb	(S)	2.6	**1.5	1.5
336006	Copper and copper-base alloy ..... do	(S)	.1	(S)	.2
336008	Other nonferrous ..... do	(S)	.9	(S)	4
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes ..... do	(S)	.5	(S)	4
308007	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	(X)	2.2	(X)	1.3
265001	Paperboard boxes, containers, and corrugated paperboard	(X)	6.0	(X)	3.1
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools	(X)	12.5	(X)	12.2
970099	All other materials and components, parts, containers, and supplies	(X)	92.5	(X)	*87.0
971000	Materials, parts, containers, and supplies, n.s.k.[2]	(X)	198.1	(X)	166.7
	INDUSTRY 3452, BOLTS, NUTS, RIVETS, AND WASHERS				
	Materials, parts, containers, and supplies	**(X)**	**1 621.6**	**(X)**	**1 262.2**
	Mill shapes and forms, except castings:				
	Carbon steel:				
331011	Bars and bar shapes ..... 1,000 s tons	**457.1	212.0	**401.8	251.0
331012	Sheet and strip ..... do	*206.4	97.4	190.5	92.2
331013	Plates ..... do	*6.4	2.3	4.1	1.5
331017	Wire and wire products ..... do	**505.1	317.3	**381.3	249.5
331019	All other carbon steel mill shapes and forms ..... do	(S)	21.3	61.8	24.1
	Alloy steel, except stainless:				
331021	Bars and bar shapes ..... 1,000 s tons	**77.1	50.4	**63.9	43.3
331029	All other ..... do	**68.2	54.3	*53.0	54.4
	Stainless steel mill shapes and forms:				
331049	Bars and bar shapes ..... 1,000 s tons	(S)	37.3	(S)	21.5
331033	Sheet and strip ..... do	**4.6	12.4	**6.3	13.4
331052	All other ..... do	**21.0	56.5	**13.7	34.1
	Copper and copper-base alloy:				
335728	Bare wire (for electrical conduction only) ..... mil lb	(D)	(D)	*101.9	2.2
335103	Rod, bar, and bar shapes ..... do	(S)	18.8	18.3	11.3
335104	Mechanical wire (including extruded and/or drawn shapes) ..... do	*8.0	11.5	(S)	9.7
335143	Plate, sheet, and strip, including military cups and discs ..... do	10.2	13.3	17.6	25.6
335152	Pipe and tube ..... do	(D)	(D)	(Z)	(Z)
	Aluminum and aluminum-base alloy:				
335301	Sheet, plate, and foil ..... mil lb	**1.6	2.0	(S)	2.8
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc ..... do	(S)	3.7	*7.1	7.6
335008	All other wire, rolled rod and bar, powder, welded tubing, etc ..... do	(S)	23.2	(S)	24.9
335616	Nickel and nickel-base alloy ..... do	(S)	11.1	4.4	13.3
	Castings (rough and semifinished):				
332011	Iron (gray and malleable) ..... 1,000 s tons	(S)	13.7	*1.9	2.0
332045	Steel ..... do	(S)	4.4	.3	1.3
336005	Aluminum and aluminum-base alloy ..... mil lb	.1	1.2	(S)	1.2
336006	Copper and copper-base alloy ..... do	(D)	(D)	(S)	.2
336008	Other nonferrous ..... do	(S)	3.0	(S)	4.9
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes ..... do	*2.9	5.5	**4.7	6.3
308007	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	(X)	4.3	(X)	4.5
265001	Paperboard boxes, containers, and corrugated paperboard	(X)	18.3	(X)	10.8
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools	(X)	75.6	(X)	39.2
970099	All other materials and components, parts, containers, and supplies	(X)	309.6	(X)	*221.3
971000	Materials, parts, containers, and supplies, n.s.k.[2]	(X)	239.4	(X)	88.1
	INDUSTRY 3462, IRON AND STEEL FORGINGS				
	Materials, parts, containers, and supplies	**(X)**	**1 299.7**	**(X)**	**1 245.1**
	Mill shapes and forms, except castings and forgings:				
	Carbon steel:				
331041	Ingots ..... 1,000 s tons	49.5	31.7	(S)	49.1
331042	Blooms, billets, and slabs ..... do	116.0	56.8	*206.4	98.2
331043	Bars ..... do	503.0	249.5	486.5	291.0
	Alloy steel, except stainless:				
331044	Ingots ..... 1,000 s tons	88.6	52.2	**30.8	25.1
331045	Blooms, billets, and slabs ..... do	100.0	109.0	203.0	166.0
331046	Bars ..... do	339.9	183.0	373.1	225.3
	Stainless steel:				
331047	Ingots ..... 1,000 s tons	5.2	8.6	(D)	(D)
331048	Blooms, billets, and slabs ..... do	5.4	15.3	13.0	21.4
331049	Bars ..... do	*7.0	21.9	**8.2	19.4
	Aluminum and aluminum-base alloy:				
333471	Ingots ..... 1,000 s tons	(S)	6.7	.2	.4
335001	Mill shapes ..... mil lb	(S)	2.6	(S)	.6
	Titanium and titanium-base alloy:				
335627	Ingots ..... mil lb	4 171.7	38.6	(S)	80.3
335628	Mill shapes ..... do	**2 766.2	21.4		

See footnotes at end of table.

Table 3. **Materials Consumed by Kind: 1987 and 1982**—Con.

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 material code	Material	1987		1982	
		Quantity[1]	Delivered cost (million dollars)	Quantity[1]	Delivered cost (million dollars)
	INDUSTRY 3462, IRON AND STEEL FORGINGS—Con.				
	Nonferrous forging stock:				
335107	Copper and copper-base alloy ..... mil lb	(S)	5	1.2	2.7
335690	Nickel and nickel-base alloy (including nickel-copper alloys) ..... do	**3.6	15.6	*1.8	7.3
335618	Other nonferrous ..... do	(D)	(D)	3.2	1.6
	Iron and steel forgings:				
346201	Cold ..... 1,000 s tons	101.4	143.1	(S)	3.2
346209	Other ..... do			**174.0	13.4
346310	Aluminum forgings, including impact extrusions ..... do	(D)	(D)	(D)	(D)
354411	Forging dies ..... mil lb	(S)	10.1	(S)	12.7
970099	All other materials and components, parts, containers, and supplies	(X)	120.1	(X)	126.6
971000	Materials, parts, containers, and supplies, n.s.k.[2]	(X)	174.0	(X)	98.2
	INDUSTRY 3463, NONFERROUS FORGINGS				
	Materials, parts, containers, and supplies	**(X)**	**470.2**	**(X)**	**477.4**
	Mill shapes and forms, except castings and forgings:				
	Carbon steel:				
331041	Ingots ..... 1,000 s tons	4	3	(S)	8.7
331042	Blooms, billets, and slabs ..... do				
331043	Bars ..... do				
	Alloy steel, except stainless:				
331044	Ingots ..... 1,000 s tons	23.8	31.0	(D)	(D)
331045	Blooms, billets, and slabs ..... do			36.2	30.9
331046	Bars ..... do			2.6	3.8
	Stainless steel:				
331047	Ingots ..... 1,000 s tons	1.6	3.8	-	-
331048	Blooms, billets, and slabs ..... do			**3.0	3.0
331049	Bars ..... do			1.1	4.7
	Aluminum and aluminum-base alloy:				
333471	Ingots ..... 1,000 s tons	43.4	104.6	(D)	(D)
335001	Mill shapes ..... mil lb	70.2	78.9	24.8	26.9
	Titanium and titanium-base alloy:				
335627	Ingots ..... mil lb	(S)	92.0	6.8	81.3
335628	Mill shapes ..... do			(S)	51.4
	Nonferrous forging stock:				
335107	Copper and copper-base ..... mil lb	*24.0	26.6	36.6	32.0
335690	Nickel and nickel-base alloy (including nickel-copper alloy) ..... do	4.7	23.9	3.8	29.8
335618	Other nonferrous ..... do	(S)	7.3	(S)	8.1
	Iron and steel forgings:				
346201	Cold ..... 1,000 s tons	-	-	-	-
346209	Other ..... do	-	-	(D)	(D)
346310	Aluminum forgings, including impact extrusions ..... do	(D)	[5]	(D)	(D)
354411	Forging dies ..... mil lb	(S)	5.7	*.9	.8
970099	All other materials and components, parts, containers, and supplies	(X)	[5]66.3	(X)	64.0
971000	Materials, parts, containers, and supplies, n.s.k.[2]	(X)	34.9	(X)	6.5
	INDUSTRY 3465, AUTOMOTIVE STAMPINGS				
	Materials, parts, containers, and supplies	**(X)**	**7 921.1**	**(X)**	**4 276.1**
	Mill shapes and forms, except castings:				
	Carbon steel:				
331011	Bars and bar shapes ..... 1,000 s tons	**140.9	76.7	*254.7	157.7
331012	Sheet and strip ..... do	8 453.7	4 749.7	*4 790.9	2 704.0
331013	Plates ..... do	23.1	11.0	**17.8	7.8
331015	Structural shapes ..... do	(S)	1.5	(S)	5.1
331017	Wire and wire products ..... do	*20.5	11.3	30.3	10.0
331018	Tin plate, tin free steel, terneplate, and blackplate ..... do	13.4	10.2	13.9	12.5
331083	All other ..... do	(S)	75.8	55.2	37.1
	Alloy steel, except stainless:				
331021	Bars and bar shapes ..... 1,000 s tons	*5.7	5.2	(S)	11.5
331029	All other ..... do	(S)	26.8	(S)	140.9
	Stainless steel:				
331033	Sheet and strip ..... 1,000 s tons	77.8	147.9	41.9	92.8
331050	All other ..... do				
335107	Copper and copper-base alloy ..... mil lb	*6.2	13.4	(S)	12.8
	Aluminum and aluminum-base alloy:				
335301	Sheet, plate, and foil ..... mil lb	**77.0	95.4	(S)	98.7
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc. ..... do	(S)	30.1	(S)	27.5
335008	All other wire, rolled rod and bar, powder, welded tubing, etc. ..... do	(S)	12.5	**3.7	2.1
	Castings (rough and semifinished):				
332011	Iron (gray and malleable) ..... 1,000 s tons	(S)	5.2	(D)	[6]
332045	Steel ..... do	(S)	56.3	(S)	.8
336005	Aluminum and aluminum-base alloy ..... mil lb	(S)	16.1	*.6	1.0
336006	Copper and copper-base alloy ..... do			(D)	[6]
336008	Other nonferrous ..... do			**8.5	8.4
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes ..... do	12.3	16.4	*28.9	13.3
308007	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	(X)	23.6	(X)	36.5
265001	Paperboard boxes, containers, and corrugated paperboard	(X)	39.5	(X)	26.8
260003	Paper and paperboard products, except paperboard boxes, containers, and corrugated paperboard	(X)	5.4	(X)	6.8
285101	Paints, varnishes, lacquers, shellacs, japans, enamels, and allied products ..... 1,000 gal	(S)	27.8	(S)	21.7

See footnotes at end of table.

Table 3. **Materials Consumed by Kind: 1987 and 1982**—Con.

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 material code	Material		1987 Quantity[1]	1987 Delivered cost (million dollars)	1982 Quantity[1]	1982 Delivered cost (million dollars)
	INDUSTRY 3465, AUTOMOTIVE STAMPINGS—Con.					
345001	Bolts, nuts, screws, rivets, washers, and screw machine products		(X)	148.7	(X)	69.5
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools		(X)	584.8	(X)	55.7
970099	All other materials and components, parts, containers, and supplies		(X)	1 039.8	(X)	*554.6
971000	Materials, parts, containers, and supplies, n.s.k.[2]		(X)	690.0	(X)	160.5
	INDUSTRY 3466, CROWNS AND CLOSURES					
	Materials, parts, containers, and supplies		**(X)**	**415.9**	**(X)**	**419.3**
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s tons	(D)	(D)	(S)	31.1
331012	Sheet and strip	do	*5.7	4.9		
331013	Plates	do	-	-	-	-
331015	Structural shapes	do	-	-	-	-
331017	Wire and wire products	do	(D)	(D)	-	-
331018	Tin plate, tin free steel, terneplate, blackplate	do	**113.3	107.9	192.6	126.3
331083	All other	do	-	-	-	-
	Alloy steel, except stainless:					
331021	Bars and bar shapes	1,000 s tons	(D)	(D)	-	-
331029	All other	do	-	-	-	-
	Stainless steel:					
331033	Sheet and strip	1,000 s tons	(D)	(D)	-	-
331050	All other	do	(D)	(D)	(D)	(*)
335107	Copper and copper-base alloy	mil lb	(D)	(D)	(Z)	(Z)
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil	mil lb	*560.0	68.7	71.3	106.5
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc.	do	(D)	(D)	(Z)	(Z)
335008	All other wire, rolled rod and bar, powder, welded tubing, etc.	do	-	-	-	-
	Castings (rough and semifinished):					
332011	Iron (gray and malleable)	1,000 s tons	(D)	(D)	(D)	(*)
332045	Steel	do	(X)	-	-	-
336005	Aluminum and aluminum-base alloy	mil lb	-	-	-	-
336006	Copper and copper-base alloy	do	-	-	-	-
336008	Other nonferrous	do	-	-	-	-
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	do	**43.5	20.9	33.9	19.8
308007	Plastics products consumed in the form of sheets, rods, tubes, and other shapes		(X)	13.5	(X)	8.8
265001	Paperboard boxes, containers, and corrugated paperboard		(X)	5.6	(X)	9.6
260003	Paper and paperboard products, except paperboard boxes, containers, and corrugated paperboard		(X)	8.2	(X)	9.5
285101	Paints, varnishes, lacquers, shellacs, japans, enamels, and allied products	1,000 gal	(S)	22.0	(X)	23.2
345001	Bolts, nuts, screws, rivets, and screw machine products		(X)	1.1	(X)	(Z)
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools		(X)	3.7	(X)	4.0
970099	All other materials and components, parts, containers, and supplies		(X)	86.6	(X)	*65.3
971000	Material, parts, containers, and supplies, n.s.k.[2]		(X)	65.0	(X)	15.1
	INDUSTRY 3469, METAL STAMPINGS, N.E.C.					
	Materials, parts, containers and supplies		**(X)**	**3 416.7**	**(X)**	**2 572.6**
	Mill shapes and forms, except castings:					
	Carbon steel:					
331011	Bars and bar shapes	1,000 s tons	(S)	40.2	(S)	26.2
331012	Sheet and strip	do	**1 422.6	910.8	**1 203.5	654.2
331013	Plates	do	(S)	26.2	**45.9	20.2
331015	Structural shapes	do	(S)	5.4	(S)	13.8
331017	Wire and wire products	do	(S)	14.0	(S)	12.2
331018	Tin plate, tin free steel, terneplate, and blackplate	do	(S)	65.8	*129.7	109.8
331083	All other	do	(S)	55.5	53.5	44.6
	Alloy steel, except stainless:					
331021	Bars and bar shapes	1,000 s tons	*27.8	25.9	(S)	9.6
331029	All other	do	(S)	39.8	(S)	75.4
	Stainless steel:					
331033	Sheet and strip	1,000 s tons	**118.0	149.1	(S)	117.2
331050	All other	do	9.1	25.7	(S)	28.6
335107	Copper and copper-base alloy	mil lb	(S)	76.5	(S)	105.3
	Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil	mil lb	*270.7	293.8	(S)	207.2
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc.	do	(S)	15.4	(S)	10.2
335008	All other wire, rolled rod and bar, powder, welded tubing, etc.	do	(S)	12.8	(S)	10.4
	Castings (rough and semifinished):					
332011	Iron (gray and malleable)	1,000 s tons	(S)	3.4	(S)	4.9
332045	Steel	do	(S)	23.3	(S)	10.3
336005	Aluminum and aluminum-base alloy	mil lb	(S)	12.4	(S)	15.5
336006	Copper and copper-base alloy	do	11.6	14.8	(D)	(*)
336008	Other nonferrous	do	(S)	2.6	(S)	11.2
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes	do	(S)	5.3	(S)	11.7
308007	Plastics products consumed in the form of sheets, rods, tubes, and other shapes		(X)	21.7	(X)	34.7
265001	Paperboard boxes and containers		(X)	47.6	(X)	42.1

See footnotes at end of table.

Table 3. **Materials Consumed by Kind: 1987 and 1982**—Con.

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text.]

1987 material code	Material	1987		1982	
		Quantity[1]	Delivered cost (million dollars)	Quantity[1]	Delivered cost (million dollars)
	INDUSTRY 3469, METAL STAMPINGS, N.E.C.—Con.				
250003	Paper and paperboard products, except paperboard boxes, and containers	(X)	3.9	(X)	5.7
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels ..... 1,00 gal.	(S)	27.1	(X)	33.9
345001	Bolts, nuts, screws, rivets, and screw machine products	(X)	50.1	(X)	28.6
354401	Special dies, tools, die sets, jigs, and fixtures, except cutting tools for machine tools	(X)	24.9	(X)	19.6
970099	All other materials and components, parts, containers, and supplies	(X)	512.7	(X)	[3]390.8
971000	Materials, parts, containers, and supplies, n.s.k.[2]	(X)	910.0	(X)	516.1
	INDUSTRY 3471, PLATING AND POLISHING				
	Materials, parts, containers, and supplies	**(X)**	**906.3**	**(X)**	**822.7**
289900	Foundry chemicals, metal treating compounds, and plating compounds	(X)	215.9	(X)	322.0
329101	Grinding wheels and other abrasive products, except industrial diamonds	(X)	13.6	(X)	12.0
331000	Steel mill shapes and forms, except castings ..... 1,000 s tons	(S)	67.1	**46.4	17.9
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels ..... 1,00 gal.	(S)	27.5	(NA)	(NA)
970099	All other materials and compounds, parts, containers, and supplies	(X)	229.1	(X)	199.0
971000	Materials, parts, containers, and supplies, n.s.k.[2]	(X)	353.1	(X)	271.8
	INDUSTRY 3479, METAL COATING AND ALLIED SERVICES				
	Materials, parts, containers, and supplies	**(X)**	**1 796.8**	**(X)**	**1 046.2**
289900	Foundry chemicals, metal treating compounds, and plating compounds	(X)	84.9	(X)	221.1
329101	Grinding wheels and other abrasive products, except industrial diamonds	(X)	7.1	(X)	4.1
331000	Steel mill shapes and forms, except castings ..... 1,000 s tons	(S)	556.8	(S)	212.2
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels ..... 1,00 gal.	(S)	225.1	(NA)	(NA)
970099	All other materials and compounds, parts, containers, and supplies	(X)	517.0	(X)	499.2
971000	Materials, parts, containers, and supplies, n.s.k.[2]	(X)	405.9	(X)	106.6

[1]For some establishments, data have been estimated from central unit values which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * 10 to 19 percent estimated; ** 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[3]For 1982, material code 331013 was included with material code 3310158.

[4]For 1982, material codes 346201 and 346209 were included in material code 970099 and are not shown separately for 1987.

[5]Data are combined with material code 970099 to avoid disclosing data for individual companies.

[6]For 1982, material codes 333348 and 341151 were included in material code 970099 and are not shown separately for 1987; material codes 332041 and 336200 are combined with material code 970099 to avoid disclosing data for individual companies.

APPENDIX
Scope and Coverage and Explanation of Terms

GENERAL

The 1987 Census of Manufactures is the 32nd census of manufacturing establishments conducted in the United States. For 1987, it was conducted as part of the economic censuses, which included the censuses of mineral industries, construction industries, retail and wholesale trades, service industries, selected transportation activities, and minority-owned and women-owned businesses, under authority of title 13 of the United States Code. Title 13 specifies that an economic census be conducted every 5 years to cover years ending in 2 and 7.

SCOPE AND COVERAGE

Establishment Basis of Reporting

The census of manufactures is conducted on an establishment basis. All manufacturing establishments with one paid employee or more at any time during the year are covered by the census of manufactures. Therefore, a company operating at more than one location is required to file a separate report for each location. This report excludes information for separately operated administrative offices, warehouses, garages, and other auxiliary units which service manufacturing establishments of the same company. Where these auxiliary operations are conducted at the same location as the manufacturing operation, they are usually included in the report for the operating manufacturing establishment.

Use of Administrative Records

From a universe of approximately 350,000 manufacturing establishments in the 1987 Census of Manufactures, approximately 150,000 small single-establishment companies were excused from filing reports. Selection of the small establishment nonmail cases was done on an industry-by-industry basis. A variable cutoff was used to determine those establishments for which administrative records were to be used in place of a census report. The cutoffs were selected so the administrative-record cases would account for approximately 3 percent or less of the value of shipments for the industry. These cutoffs were then adjusted so that all single-establishment companies with less than 5 employees were excluded from the mail canvass, while all establishments with more than 20 employees were included. Where establishments in the 5 to 20 employee size range were included in the mail canvass, an abbreviated census form was frequently used.

For these nonmail establishments, (and a small number of larger establishment whose reports were not received at the time the data were tabulated) data on employment, payroll, and receipts were obtained from administrative records of other government agencies rather than from census forms. The administrative-record information was then used in conjunction with industry averages to estimate the data for these establishments. The value of shipments and cost of materials were not distributed among specific products and materials but were included in the product and material "not specified by kind" (n.s.k.) categories.

EXPLANATION OF TERMS

Number of establishments and companies–A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

All employees–Includes all full-time and part-time employees on the payrolls at any time during the year. Included are all persons on paid sick leave, paid holidays, and paid vacations. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November.

Production workers–Includes workers up through the working-supervisor level engaged in fabricating, processing, assembling, inspecting, receiving, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial, guard services, product development, auxiliary production for plant's own use (e.g., powerplant), recordkeeping, and other closely associated services. Truckdrivers delivering ready-mixed concrete are also included in production workers.

Other employees–Includes nonproduction personnel, including those engaged in the following activities: supervision above working-supervisor level, sales (including driver/salespersons), sales delivery (truckdrivers and helpers), advertising, credit collection, installation and

servicing of own product, clerical and routine office functions, executive, purchasing, finance, legal, personnel (including cafeteria, etc.), professional, and technical employees.

Payroll–Includes the gross earnings for the "employees" defined above, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. Respondents were told that in reporting they could follow the definition of payrolls used for calculating the Federal withholding tax.

Production-worker hours–Covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave when the employee was not at the plant.

Cost of materials–Refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuels consumed, regardless of whether they were purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

The important components of this cost item are (a) all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year; (b) electric energy purchased; (c) fuels consumed for heat, power, or generating electricity; (d) work done by others on materials or parts furnished by manufacturing establishments (contract work); and (e) products bought and resold in the same condition.

Specific materials consumed (table 3)–In addition to the total cost of materials which every establishment was required to report, information was also collected for most manufacturing industries on the consumption of major materials used in manufacturing. These inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. Establishments consuming less than a specified amount (usually $10,000) of a specific material were not requested to report consumption of that material separately. Also, the cost of materials for the small establishments for which administrative records were used was estimated as "not specified by kind" (n.s.k.).

Value of shipments and other receipts–Generally refers to received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair receipts, sale of scrap, and sale of products bought and resold without further processing. Included are all items made by or for the establishment from materials owned by it whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In a few industries, the value of production or value of work completed is used instead of value of shipments. These industries are identified in the introduction and are footnoted in table 1.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, that is, including not only the direct costs of production but also a reasonable proportion of "all other costs" (including company overhead and profit).

Shipments or production of individual products (table 2)–In the 1987 census, detailed shipment information was collected for approximately 11,000 individual products. These products are identified by a seven-digit code and are grouped into approximately 1,500 classes of products, which in turn are primary to 459 four-digit industries. Data at the five-digit product-class level have been collected each year as part of the annual survey of manufactures. Information at the seven-digit level, collected for many industries in the current industrial reports program, is not included in this table.

Value added by manufacture–This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments for products manufactured plus receipts for services rendered. The result of this calculation is then adjusted by the addition of value added by merchandising operations (that is, the difference between the sales value and cost of merchandise sold without further manufacturing, processing, or assembly) plus the net change in finished goods and work-in-process inventories between the beginning and end of the year.

For those industries where value of production is collected instead of value of shipments (see footnote in table 1), value added is adjusted only for the change in work-in-process inventories between the beginning and end of the year. For those industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

Value added avoids the duplication in the figure for value of shipments which results from the use of products of some establishments as materials by others. Value

added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

Expenditures for new plant and equipment–Establishments in operation and any known plants under construction were asked to report their expenditures for (a) permanent additions and major alterations to manufacturing establishments and (b) new machinery and equipment used for replacement and additions to plant capacity if they are of the type for which depreciation accounts are ordinarily maintained.

These totals exclude expenditures for used plant and equipment, expenditures for land, and cost of maintenance and repairs charged as current operating expenses. Data for used plant and equipment will be published in the final industry bulletin.

End-of-year inventories–Comprised of (a) finished products; (b) work-in-process; and (c) materials, supplies, fuels, etc. Beginning in 1982, respondents were asked to report their inventories at (the lower of) cost or market prior to adjustment to LIFO cost. This is a change from prior years in which respondents were permitted to value their inventories using any generally accepted accounting method. Therefore, 1982 through 1987 data for inventories are not strictly comparable to prior-year data.

Specialization and coverage ratios–An establishment is classified in a particular industry if its shipments of primary products of the industry exceed in value its shipments of the products of any other single industry. An establishments' shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). The following ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in table 1 and data on product shipments shown in table 2.

Specialization ratio–Represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio–Represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments, wherever classified.

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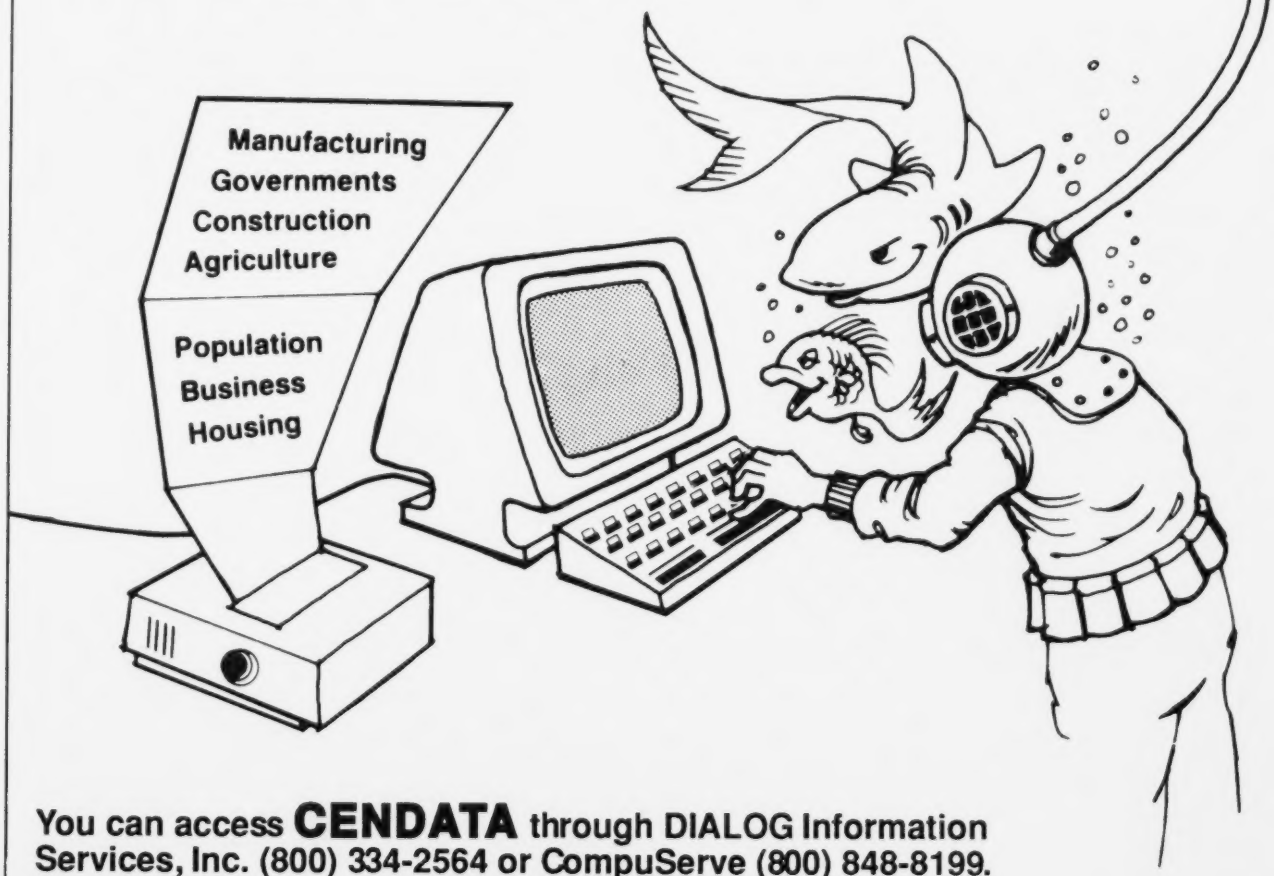

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